

## **REMARKS/ARGUMENTS**

The foregoing amendments and these remarks are responsive to the Office Action mailed July 25, 2008. As this response is timely filed within the 3-month shortened statutory period, no fee is believed due. However, the Examiner is expressly authorized to charge any deficiencies to Deposit Account No. 50-0951.

### **Claim Rejections – 35 USC §§ 102 & 103**

In the Office Action, claims 26-39 are rejected under 35 U.S.C. §103(a) as being unpatentable over Brumfield et al. (US 5,609,592) in view of Morrison (US 6,562,038).

#### **Aspects of Applicant's Invention**

It may be helpful to reiterate certain aspects of Applicant's invention prior to addressing the cited references. Applicant's invention, as described in Claim 26, is directed to a method for dynamically supporting the spine in the area of the facet joint. A spinal implant rod is provided along with at least a fixation connector assembly and a sliding connector assembly. Each connector assembly has a post and a connecting member having a rod connecting portion and a post connecting portion. The sliding connector assembly has a rod connecting portion with structure for slidable engagement of the rod. The fixation connector assembly has a rod connecting portion with structure for engaging the rod so as to prevent sliding movement of the rod relative to the connector assembly. The post of the sliding connector assembly or the fixation connector assembly is positioned and secured in the area of the superior articular facet of a lower vertebrae, and the post of the other of the sliding connector assembly or the fixation connector assembly is positioned and secured in the area of an inferior articular facet of

an adjacent upper vertebrae. The rod is secured to the sliding connector assembly so as to be slidible relative thereto postoperatively, and is secured to the fixation connector assembly so as to prevent slidible movement relative thereto postoperatively.

Claim 39 is directed to a method of dynamically stabilizing the spine in the area of the facet joint. A longitudinally rigid spinal implant support structure such as a rod and two connector assemblies are used. A first connector assembly is positioned and secured in the area of the superior articular facet of a lower vertebrae, and the other connector assembly or the fixation connector assembly is positioned and secured in the area of an inferior articular facet of an adjacent upper vertebrae. The longitudinally rigid support structure is then secured to the connector assemblies so as to permit post-operative longitudinal (substantially in the direction of the long length of the elongated support) movement relative to at least one of the connector assemblies. Longitudinal movement of the support structure relative to at least one of the connector assemblies permits longitudinal movement of one connector assembly relative to the other, however, lateral movement (relative to the support structure) of one connector assembly relative to another is substantially prevented.

**The Claims Define Over The Prior Art**

The Examiner asserts that Brumfield et al. (Brumfield) disclose a method of spinal fixation comprising the steps of providing a spinal fixation rod (21), providing at least a fixation connector assembly and a sliding connector assembly, and wherein each comprises a post and connecting member, which then also has a rod and post connecting portion. The structures permit fixation to the spinal structure (as in the facet

area) and also permit sliding adjustment of the rod and also has structure (fixation screws 111) for preventing sliding movement when the desired structure is achieved during placement of the structure during surgery. It was further suggested by the Examiner that the device is capable of being slidable postoperatively.

Applicant disagrees that Brumfield suggests a method of postoperative sliding. Brumfield is instead replete with references, throughout the specification, to the fixation of the rod to the connecting structure:

**"As the set screw is threaded further into the threaded bore, it presses the stem against the spinal rod to provide a *clamped engagement and to restrain relative movement between the rod and the fixation element*".**

Column 2; lines 44-47

**"In this embodiment, as the set screw is threaded further into the threaded bore, it presses the rod against the stem of the fixation element to again provide a *clamped engagement* between the rod and the stem of the fixation element."**

Column 2; lines 50-54

**"However, it is an *essential feature* of the rod connector means 28 of the present embodiment that the bore 49 include the bore/channel overlap 50 to permit the stem 26 of the fixation hook 25 to contact the rod 21 when the rod is situated within the rod channel 47."**

Column 6; lines 23-27

**"The pressure between the stem 26 of the hook 25 and the rod/channel overlap portion 51 of the connector body 45 *clamps the rod to the rod connector means* 28. This pressure is provided by a way of a set screw 58 which is threaded into a set screw bore 54."**

Column 6; lines 30-35

**"The rod 21 of one specific embodiment includes a feature for preventing the rod connector means 28 from shifting along the length of the rod 21."**

Column 6; lines 55-57

**"It has been found that the interface between the grove tips 41 and the rod spiral groove 22 adds a greater degree of longitudinal stability to the rod connector means 28 to prevent the connector from sliding along the rod during or after instrumentation."**

Column 6; lines 63-67

**"As can bee seen from FIG. 4, the rod 21 is clamped between the rod channel 63, particularly at the locking edge 65, the hook stem 26 and the tapered tip 76 of the set screw 74"**

Column 7; lines 52-55

**"Once the appropriate orientation of rod to fastener is achieved, the rod connector 29 and particularly the set screw of the rod connector, can be tightened to clamp the stem 96 and to the rod 21."**

Column 9; lines 42-45

**"The set screw 122, when threaded into the bore 121" contacts both hook stems 26" to clamp them against the rod 21."**

Column 10; lines 44-46

**"The stems 26" of the hooks 25" are engaged to the rod 21" by way of a rod connector 29."**

Column 10; lines 64-65

**"Once the appropriate relationship between rod and vertebra has been achieved the set screw 111 of the rod connector 29 can be tightened to clamp the stem 26 to the rod 21"**

Column 11; lines 22-25

**"A set screw 160 is then threaded into the bore 154 so that the tip 161 contacts the spinal rod 155 and urges it into frictional engagement with the stem 156."**

Column 12; lines 24-27. Emphasis added to all citations. To the contrary, there is not a single reference in Brumfield to post-operative sliding movement. The possibility that the structure of Brumfield could be used to perform the method provides no teaching of the method, and there is no disclosure or suggestion of Applicant's method anywhere in Brumfield that Applicant can locate.

Morrison teaches a spinal fixation system that uses a rod and pedicle system on a facet joint. Morrison notes that a feature of this invention is that it allows the surgeon the option of lowering the profile of a spinal attachment system (see also Col. 2, lines 18-25). Morrison also does not disclose or suggest dynamic stabilization with a postoperative sliding movement.

## **CONCLUSION**

Applicant believes that this application is now in full condition for allowance, which action is respectfully requested. Applicant requests that the Examiner call the undersigned if clarification is needed on any matter within this Amendment, or if the Examiner believes a telephone interview would expedite the prosecution of the subject application to completion.

Respectfully submitted,

AKERMAN SENTERFITT

Date: October 27, 2008

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